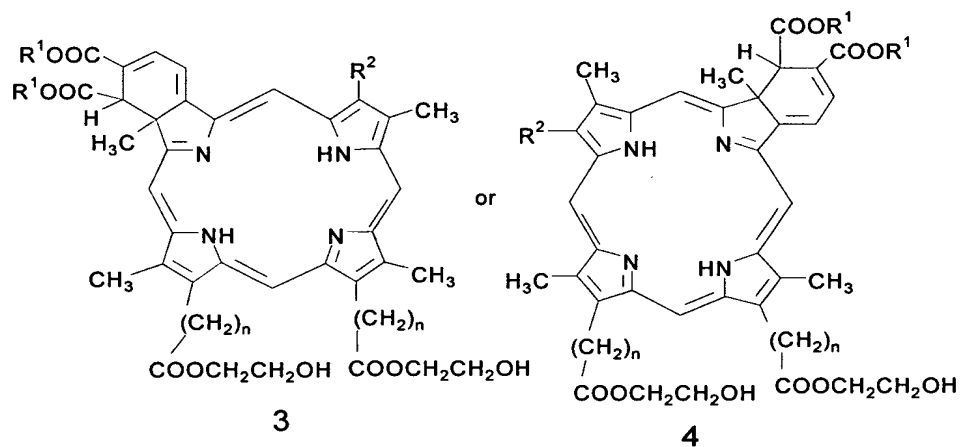
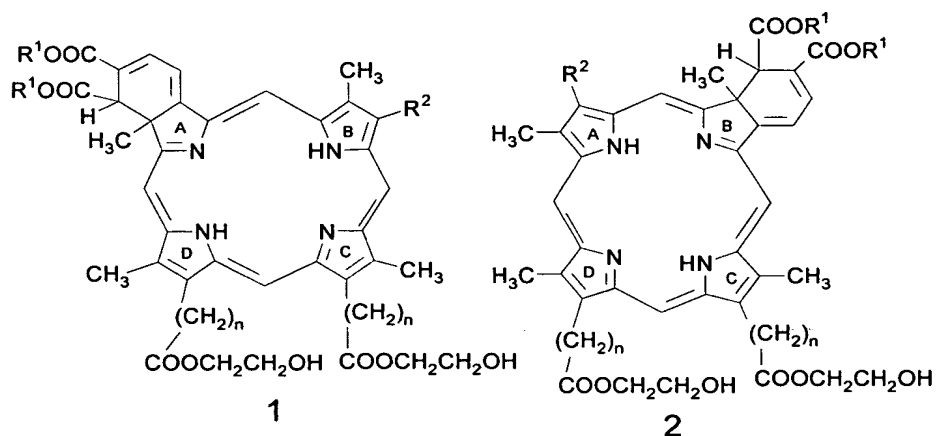


Claims

1. A compound of the formula



and their 1,4-diene isomers

and the metallated and/or labeled and/or conjugated forms thereof

wherein each R¹ is independently alkyl (1-6C);

each n is independently an integer of 0-6; and

R² is vinyl or a derivative form thereof.

2. The compound of claim 1 wherein R² is vinyl, -CHOR', -CHO, -COOR', -CH(OR')CH₃, -CH(OR')CH₂OR', -CH(SR')CH₃, -CH(NR')₂CH₃, -CH(CN)CH₃, -CH(COOR')CH₃, -CH(OOCR')CH₃, -CH(NR'COR')CH₃, -CH(CONR')₂CH₃, -CH(halo)CH₃, or

-CH(halo)CH₂(halo) wherein R' is H, or a hydrocarbon radical (1-6C) optionally substituted with a heteroatom substituent.

3. The compound of claim 1 wherein R² is an organic group of less than 12C resulting from direct or indirect derivatization of a vinyl substituent.
4. The compound of claim 1 wherein R² is a group containing 1-3 tetrapyrrole-type nuclei.
5. The compound of claim 1 which is in a metallated form.
6. The compound of claim 1 which is in conjugated form.
7. The compound of claim 1 which is labeled.
8. The compound of claim 1 which does not contain a metal ion.
9. The compound of claim 1 wherein R² is vinyl.
10. The compound of claim 1 wherein each R¹ is methyl.
11. The compound of claim 1 wherein both n are 2.
12. The compound of claim 11 wherein R² is vinyl and both R¹ are methyl.=
13. The compound of claim 1 which is of formulas 1-4.
14. The compound of claim 13 wherein R² is vinyl, -CHOR', -CHO, -COOR', -CH(OR')CH₃, -CH(OR')CH₂OR', -CH(SR')CH₃, -CH(NR')₂CH₃, -CH(CN)CH₃, -CH(COOR')CH₃, -CH(OOCR')CH₃, -CH(NR'COR')CH₃, -CH(CONR'₂)CH₃, -CH(halo)CH₃, or -CH(halo)CH₂(halo) wherein R' is H, or a hydrocarbon radical (1-6C) optionally substituted with a heteroatom substituent.

15. The compound of claim 13 wherein R^2 is an organic group of less than 12C resulting from direct or indirect derivatization of a vinyl substituent.

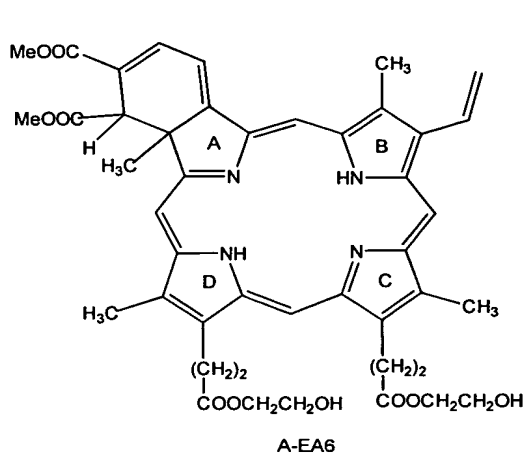
16. The compound of claim 13 wherein R^2 is vinyl.

17. The compound of claim 13 wherein each R^1 is methyl.

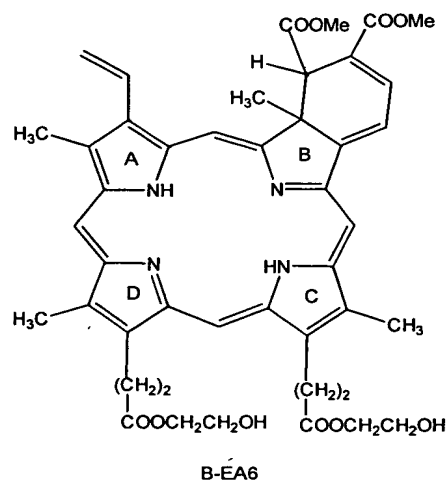
18. The compound of claim 13 wherein both n are 2.

19. The compound of claim 18 wherein R^2 is vinyl and both R^1 are methyl.

20. The compound of claim 12 which is of the formula



and



and the metallated and/or labeled and/or conjugated forms thereof.

21. The compound of claim 20 which is in a metallated form.

22. The compound of claim 20 which is in conjugated form.

23. The compound of claim 20 which is labeled.

24. The compound of claim 20 which does not contain a metal ion.

25. A pharmaceutical composition which comprises the compound of claim 1 in admixture with at least one pharmaceutically acceptable excipient.

26. A pharmaceutical composition which comprises the compound of claim 20 in admixture with at least one pharmaceutically acceptable excipient.

27. An improved method to conduct photodynamic therapy or diagnosis wherein said method comprises administering a photoactive compound to a subject in need of said therapy or diagnosis wherein the improvement comprises use of the compound of claim 1 as the photoactive agent.

28. An improved method to conduct photodynamic therapy or diagnosis wherein said method comprises administering a photoactive compound to a subject in need of said therapy or diagnosis wherein the improvement comprises use of the compound of claim 20 as the photoactive agent.

29. An improved method to conduct photodynamic therapy or diagnosis wherein said method comprises administering a photoactive compound to a subject in need of said therapy or diagnosis wherein the improvement comprises use of the compound of claim 21 as the photoactive agent.

30. An improved method to conduct photodynamic therapy or diagnosis wherein said method comprises administering a photoactive compound to a subject in need of said therapy or diagnosis wherein the improvement comprises use of the compound of claim 22 as the photoactive agent.

31. An improved method to conduct photodynamic therapy or diagnosis wherein said method comprises administering a photoactive compound to a subject in need of said therapy or diagnosis wherein the improvement comprises use of the compound of claim 23 as the photoactive agent.

32. An improved method to conduct photodynamic therapy or diagnosis wherein said method comprises administering a photoactive compound to a subject in need of said therapy or diagnosis wherein the improvement comprises use of the compound of claim 24 as the photoactive agent.